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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 20716 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/NL 03/00203	International filing date (day/month/year) 19.03.2003	Priority date (day/month/year) 05.04.2002
International Patent Classification (IPC) or both national classification and IPC C08K5/103		
Applicant DSM IP ASSETS B.V.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 1 sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 16.10.2003	Date of completion of this report 13.07.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Kositza, M Telephone No. +49 89 2399-7885 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL 03/00203

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-12 as originally filed

Claims, Numbers

1-12 received on 15.04.2004 with letter of 15.04.2004

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL 03/00203**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	8
	No: Claims	1-7,9-12
Inventive step (IS)	Yes: Claims	8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL 03/00203

Item V

Citations

The following documents D1-D2 are referred to in this communication:

D1: US 5,717,021

D2: EP-A-0 230 015

Amendments

Amended claims 1-12 are allowable. The amendment of claim 1 is supported by original claim 1 together with page 6 lines 6-9 of the original description.

Novelty

Claims 1-7, 9-12 are not novel.

Claim 8 is novel.

D1 discloses compositions having all the technical features of claims 1-7, 9-12.

See D1 claim 3 together with col. 5 l. 27-30 (addition of PETS); examples 9-11 together with col. 4 l. 1 (nonene for butylene). Therefore, claims 1-7, 9-12 are not novel.

D1 does not specifically disclose C₁₀ alpha-olefin oligomers. Therefore, claim 8 is novel.

Inventive step

Claim 8 involves an inventive step.

Closest prior art is D2 also addressing the problems encountered with injection molding polycarbonate compositions. D2 describes polycarbonate compositions comprising component (b2) as single mold release agent. There exists no hint in the prior art that polycarbonate compositions comprising components (b1) and (b2) have synergistically improved mold release properties. Therefore, claim 8 involves an inventive step.

Industrial applicability

The claimed subject-matter is susceptible of industrial application.

Enclosure 1.1

AMENDED SET OF CLAIMS

1. Thermoplastic composition comprising (a) an aromatic polycarbonate and/or a polyester or a blend of aromatic polycarbonate and polyester, in which the polycarbonate forms the continuous phase, and (b) a mould release agent, characterised in that the composition comprises 0.01 – 3 mass% of a mould release agent that contains
 - (b1) a fatty acid ester of an aliphatic polyol having 2-6 hydroxy groups and an aliphatic C₁₀-C₃₆ carboxylic acid; and
 - (b2) a saturated alpha-olefin oligomer of at least one C₆-C₁₈ alpha-olefin; with a mass ratio of components (b1) and (b2) of from 1/9 to 9/1.
2. Thermoplastic composition according to claim 1, wherein (a) is bisphenol A polycarbonate.
3. Thermoplastic composition according to any one of claims 1-2, wherein the polyol in component (b1) has 3-4 hydroxy groups.
4. Thermoplastic composition according to any one of claims 1-3, wherein the carboxylic acid in component (b1) is a C₁₆-C₂₂ fatty acid.
5. Thermoplastic composition according to any one of claims 1-4, wherein component (b1) comprises pentaerythritol tetrastearate.
6. Thermoplastic composition according to any one of claims 1-5, wherein component (b2) has a molar mass of about 400-800 g/mol.
7. Thermoplastic composition according to any one of claims 1-6, wherein component (b2) is an oligomer of a C₈-C₁₂ poly-alpha-olefin.
8. Thermoplastic composition according to any one of claims 1-7, wherein component (b2) is an oligomer of a C₁₀ poly-alpha-olefin.
9. Thermoplastic composition according to any one of claims 1-8, wherein the mass ratio of components (b1) and (b2) is from 1/6 to 6/1.
10. Thermoplastic composition according to any one of claims 1-9, wherein the amount of mould release agent (b) is about 0.25-0.75 mass%.
11. Use of the thermoplastic composition according to any one of claims 1-10 for injection moulding of articles.
12. Moulded articles made from the thermoplastic composition according to any one of claims 1-10.